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Air Defense Operations

According to the Alaskan Air Command Capabilities Plan, the air defense operations were to be carried out in accordance with the following general concepts. The Alaskan NORAD Region, supported by AAC, was considered to be an integral part of the North American air defense system. Mission, operational procedures, and tactical doctrine were predicated on concepts, criteria, and directives established by CINCNORAD. The system was designed, trained, and operated daily to function effectively in a wartime environment. In an emergency, primary mission activities would be intensified and maximum combat posture would be assumed immediately by all units.²¹ During the period of the Cuban crisis, actions were carried out in accordance with the stated plan.²²

Air defense was to be achieved by maintaining the available air defense forces in an appropriate state of combat readiness and by deploying those forces in a manner best calculated to defend the Alaskan region against attack by aircraft and cruise missiles. While it was undoubtedly desirable to defend the whole of Alaska, emphasis and priority must necessarily be given

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to those areas and facilities that contained the essential elements of the theater's offensive and defensive war capabilities. Those elements were located within the Anchorage, Fairbanks, and Kodiak areas. It was considered essential that the highest priority be afforded the Eielson-Elmendorf facilities to insure our ability to launch retaliatory forces and make maximum contribution to effective sustained defense operations in event of general war.

The success of all air defense actions and overall success of an air battle would depend upon the degree of warning that could be achieved. Accurate strategic intelligence estimates and assessments of the enemy threat would be essential to provide full deployment of weapons to forward operating bases and to bring all forces to the highest state of readiness. Under such conditions air defense elements would enjoy the optimum in weapon commitment and flexibility.

If the above conditions were not met and should first warning of attack be obtained from the tactical radar net, it was considered unlikely that adequate time would be available to bring defensive weapons to a state of readiness sufficient for full force

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employment. This was because of the proximity to the Soviet Union. Regardless of the circumstances, however, all available weapons would be employed to strike the attacking force as soon as possible and as far out as possible and to subject it to pressures increasing in severity and diversity as it approached the target complex.

During peacetime conditions, fighter-interceptor forces would be deployed and maintained in a state of readiness which would provide an optimum balance between immediate combat requirements and unit and personnel training. To defend against surprise attack and to provide visual identification of unknown air-borne objects, minimum interceptor forces were to be deployed to King Salmon, Galena, and Eielson on a continuous basis. In event of an emergency or as the tactical situation might dictate, additional interceptor forces were to be deployed to those forward operating bases to afford additional tactical advantages.

Upon declaration of DEFCON 3 or higher state of readiness, task force commanders were to deploy necessary personnel and equipment to support a minimum of eight interceptor aircraft at King Salmon, Galena,

and Kielson. All operationally ready interceptor aircraft, regardless of location, would be placed on a 5-minute status. Although support personnel and equipment were to be automatically deployed, the interceptor aircraft would not be deployed except as directed by the NORAD Region commander or his designated representative after an evaluation of the tactical situation.

Although CINCAL was the Commander Alaskan NORAD Region, he had delegated operational control of all theater air defense forces to the Commander, Alaskan Air Command. Operational control included the responsibility for the overall air defense of the area assigned.²³

According to the November 1962 operating program, the present forward base concept of operations used in the employment of the fighter-interceptor force was to continue. The four NORAD control centers (Fire Island, King Salmon, Murphy Dome, and Campion) passed data direct to the Alaskan NORAD Region combat center which controlled all combat operations under a centralized supervision, decentralized execution and control, concept of operations. All air defense exercises were to be designed, controlled, and evaluated

by the AAC evaluation and exercise division.

Weapon Systems. The Alaskan Air Command interceptor force consisted of the 317th Interceptor Squadron based at Elmendorf Air Force Base. Crews for the interceptor squadron consisted of 60 assigned pilots. Flying hours were to be programmed to insure 25 hours monthly utilization per possessed aircraft. The Alaskan Air Command had a total unit equipment (UE) strength of 38 F-102 aircraft and two TF-102 aircraft with one attrition aircraft for which no additional personnel or ground support equipment was authorized.

Interceptor Alert. The normal alert periods were established as follows:

Elmendorf AFB	2 F-102A on 5 minutes 6 F-102A on 15 minutes
Eielson AFB	2 F-102A on 5 minutes
Galena	2 F-102A on 5 minutes
King Salmon	2 F-102A on 5 minutes

The 5-minute alert aircraft at Elmendorf AFB were GAR-11 equipped and all 5-minute aircraft were to become GAR-11 equipped as the respective bases became GAR-11 capable.
²⁴

(R) Support of Other Commands

Q1. The Alaskan Air Command had the capability to effectively support the Strategic Air Command in Alaska. Support of the more than 70 other tenants in the command was also being accomplished satisfactorily except in those instances in which sufficient advance notice of tenants' requirements had not been provided. ²⁵

Q2. Among the projects of other commands requiring support by AAC were the following:

A2. Project Littlebit. This was a USAF controlled project under the operation of Air Force Systems Command (AFSC) at Sheyka Air Force Station. Approximately 50 personnel and one specially equipped KC-135 aircraft were involved in this project.

A2. Project EMEWS. Effective 1 January 1962, the ballistic missile early warning system (EMEWS) project was transferred to Air Defense Command (ADC) for operation and control. The Alaskan Air Command provided civilian personnel administration for the 47 civil service employees utilized in operating the power plant. Funds for salaries were provided by ADC. This project, located at Clear, Alaska, was contractually operated by Radio Corporation of America.

Break in Sequence

AIRCRAFT AND WEAPON SYSTEMS

There were no changes in the status of the aircraft available to the Alaskan Air Command (AAC) for mission accomplishment and support activities during the second half of 1962. Quite a few changes were under consideration for the future to improve the aircraft assignment picture in the support field.

The numbers of aircraft assigned to AAC as 1962 ended were:

U-6A	4	B-57E	2
CH-21B	9	F-102A	33
HH-21B	4	TF-102A	2
T-33A	24	C-113A	1
C-47	8	C-123B	13
C-54	6		

All of these aircraft were located at Elmendorf AFB except for one U-6A, two CH-21B helicopters, the four HH-21B helicopters, six T-33s, and two C-47 transports, which were located at Eielson AFB.¹

The flying safety record for the last half of 1962 revealed only three major accidents. All aircraft were destroyed, but no major injuries or fatalities

were involved in these three accidents.

Tactical Aircraft

The F-102A Delta Dagger jet fighter-interceptor was the only tactical aircraft assigned to the Alaskan Air Command. At the close of 1962, 38 F 102s and 2 TF-102s were on hand. The operationally ready status for the last half of 1962 was: July - 23 aircraft (57.5%), August - 25 (62.5%), September - 33 (82.5%), October - 32 (80%), November - 26 (65%), and December - 25 (62.5%). The F-102 flying hour program for the second half of 1962 called for 6,852 flying hours. Only 6,011 hours were actually flown. One reason for this was the reduced flying during the Cuban situation in the latter part of the period. The average hours flown for each aircraft possessed was: July - 25.2, August - 27.8, September - 26, October - 24.3, November - 21, and December - 24.3.

The operational readiness picture for F-102 pilots was very good. The command was authorized 56 pilots. The assigned figure varied during the period but was always over the authorization. The assigned pilots were all operationally ready except for one pilot in August. There were 60 aircrews

assigned in July and November, 61 in August and September, 62 in October, and 59 in December 1962.²

The operational plan for the F-102 provided for deployment to three forward bases, Eielson AFB, Galena, and King Salmon. Normally, two interceptors would be maintained on a 5-minute alert status at each forward base. In addition, two more would be on a 5-minute alert at the F-102 home base, Elmendorf AFB, plus six more on 15-minute alert. These alert aircraft amounts would be increased to eight at each forward base in the event of either simulated or actual states of increased readiness condition. If warning time permitted, all operationally ready F-102A interceptors would be armed with GAR-11 missiles. In the event of a missile warning, all possible F-102A would be scrambled from Elmendorf and Eielson Air Force Bases for survival purposes.

The two alert interceptors had been withdrawn from the King Salmon forward base earlier in 1962 because of construction work at the base. Runway 11-29 was extended 1,000 feet to the southwest. A project to install high intensity lighting on runway 11-29 started on 5 July 1962 but was held up for lack

of the government-furnished transformer for the system at the close of 1962. The two alert interceptors were returned to King Salmon on 1 October. Runway 11 had a concrete overrun with an MA-1 runway overrun barrier which had been modified to MA-1A to arrest aircraft with tail hooks. There was no suitable overrun on runway 29.³

The taxiway leading from the approach end of runway 18 to the station operations aircraft parking ramp had been closed since 1 April 1962 due to deterioration of the asphalt surfacing. A request for taxiway repair was originally disapproved, but as the year ended the project was under bid for spring construction.⁴

The F-102A had three types of Falcon missiles available as armament to be used with the MC-10 Air Weapons Control System (AWCS). The GAR-1D missile was an air-to-air radar-guided light-weight rocket-propelled missile capable of operating at high altitudes. It carried 2.75 pounds of HBX explosive. The warhead fuze contained a time delay mechanism which detonated the warhead about 22 seconds after launch if the missile missed the target.

The GAR-2A was an air-to-air passive infrared seeker self-propelled guided missile capable of interception and destruction of aerial targets upon impact at altitudes up to 60,000 feet. The infrared guidance system offered certain advantages over the radar guidance system of other missiles. It featured improved accuracy under some tactical conditions, better low-altitude performance, immunity to electronic countermeasures, and a requirement for a minimum of specialized weapon control equipment. On the other hand, the GAR-2A could not be launched at targets which were closely in line with the sun, and was ineffective when launched through adverse weather conditions such as rain or heavy clouds.

The final missile available for use with the F-102A was the GAR-11 Falcon missile. This was an air-to-air semi-active radar homing missile self-propelled after launch to supersonic speeds to intercept and destroy aerial targets by detonation of the warhead with a proximity fuse. The GAR-11 was a transitional missile for the 1960-1965 period prior to the advanced nuclear warhead GAR-9. The GAR-11 was a design evolution from the GAR-1D utilizing modified guidance

and control components of the ID. The GAR-11 carried a small MK-54 nuclear warhead and had an electronics counter-countermeasure capability superior to the GAR-1D. The GAR-1D and GAR-2A were interchangeable with the GAR-11 in the modified front and rear center bays of the F-102A interceptors. The center rail in both center bays could carry a GAR-11 missile and the two weapons could be fired singly.

Certain safety restrictions pertained to the F-102A/GAR-11/MK-54 Weapon System. Peacetime flights for aircrew proficiency or practice intercepts were ruled out. AAC could fly the F-102A/GAR-11/MK-54 Weapon System in peacetime for active air defense missions for target identification. Tactical ferry of the missile could be performed if the rocket motor igniter was disconnected. Jettisoning of ready weapons would be permitted only in open ocean areas at least 10 miles offshore or in approved land areas. If these areas were not available, the GAR-11 would remain in the aircraft.⁵

During the last half of 1962, the GAR-11 missile was integrated into the air defense capability of AAC as part of the F-102 armament.⁶ The home base,

Elmendorf, would have 116 GAR-11's and each of the three forward bases (Eielson AFB, Galena AFS, and King Salmon AFS) would have 23 on hand. Under increased readiness conditions, additional F-102s deployed from Elmendorf AFB by the 317th Fighter-Interceptor Squadron would have GAR-11 missiles uploaded. Under other conditions, F-102 aircraft would deploy without the GAR-11 and upload missiles at the forward base.

The dispersal of the GAR-1D and 2A at the four operating bases was as follows:⁷

	<u>GAR-1D</u>	<u>GAR-2A</u>
Elmendorf	154	106
Eielson	76	92
Galena	76	92
King Salmon	76	92

A major problem concerning the F-102A weapon system was the establishment of a weapon system evaluator missile (WSEM) program that was practical and feasible. The WSEM was a test item to determine correct alignment and functioning of the missile auxiliaries in the KG-10A AWCS. One difficulty was that an appropriate inspection interval had never been

established by experience or data analysis. The number of WSEMs available were limited and this hampered collection of data. Another factor was the requirement for the HQ-10 AWCS and its auxiliaries to be in top condition with a high state of reliability to permit good WSEM results.⁸

A contributing factor to the unusually high WSEM failure rate experienced in the early part of this period was that AAC only had 18 WSEM's for 40 assigned aircraft, and eight of these had been locally converted from infrared to radar type. AAC requested an increase to 24 WSEMs.⁹ Middletown Air Materiel Area (MAAMA) stated that procurement of WSEMs had been completed and none were available for AAC, either as additional units or replacements for converted WSEMs. Procurement had been made on the basis of requirements stated by the using commands. The AAC request had not been received by MAAMA prior to the contract award.¹⁰

Another problem in F-102 operations was the maintenance of deployed aircraft. The 317th Fighter-Interceptor Squadron with an authorization of 40 T/TF-102 Delta Daggers represented an augmented squadron when compared to an Air Defense Command (ADC)

interceptor squadron. The reason for this was the Alaskan operational concept of a main base at Elmendorf AFB and three forward bases. Since authorization documents for both manpower and equipment were based on aircraft and flying hour factors, only very limited maintenance could be performed at a forward base. In most instances where maintenance was required at a forward base, the aircraft had to be flown back to the home base if possible or the maintenance personnel and equipment deployed to the forward base to accomplish the work. This situation made maintenance scheduling a problem. Initial procurement of aerospace ground equipment (AGE) for the F-102 program was based upon the operation of a typical ADC squadron operating from one base. Since then some additional AGE had been obtained to support the forward base concept, but the Air Force did not have sufficient equipment to increase the authorization substantially until the number of F-102 units, both Air Force and Air National Guard, decreased.¹¹

A Figure 8 modification program for the F-102 was scheduled to begin on 7 January 1963 and be completed by August 1963. This modification would

provide an infrared sighting capability for the KC-10 AWCS which would improve low-level operations by the F-102... The work was to be accomplished by Land Air Company, Incorporated.¹²

By 11 December 1962 the F-102 Mobile Training Detachment (MID) had completed the scheduled training and returned to Air Training Command (ATC). The equipment was retained at Elmendorf AFB for use by the field training detachment (FTD) to be activated 1 April 1963. Two ATC instructors remained to conduct the Figure 8 technician training which started in November 1962 and should be completed prior to the activation of the FTD.¹³

Support Aircraft

The Alaskan Air Command operated about 50 transport and support type aircraft with about 40 primary-duty pilots supplemented by attached pilots. All flights were in direct support of the AAC mission except minimum combat readiness training (CRT) flying, which consisted only of crew upgrading or instrument and standardization/evaluation flight checks as required. The aircraft operated within the state of Alaska and adjacent areas, with occasional trips to